promoter; or

(ii) a gene encoding an inhibitor of the disrupter gene specified at (d) below under control of said inducible promoter;

(c) a plant developmental gene promoter sequence activated at a predetermined stage of plant development, which, in the case of (b)(i) above, includes an operator sequence recognized by said repressor protein, the presence of which inactivates said plant developmental gene promoter;

(d) a gene encoding a protein-disrupter of a plant-characteristic, wherein said plant characteristic is either essential to plant growth or is a characteristic resulting from gene insertion, under the control of said plant developmental gene promoter sequence; wherein the presence or absence of the exogenous chemical inducer controls whether said characteristic is displayed in the plant,

wherein said system does not act only to disrupt the biosynthesis of viable pollen.

27. (Amended) An expression system as claimed in claim 26 where the plant characteristic controlled by the system is essential to plant growth, whereby the presence or absence of the exogenous chemical inducer induces a response selected from the group consisting of growth to maturity retarded growth and growth cessation at said predetermined stage.

29. (Amended) An expression system as claimed in claim 26, wherein the expression system comprises a disrupter gene encoding a cytotoxin which disrupts cell function, leading

to cell death.

31. (Amended) An expression system as claimed in any one of claims 26 or 27, wherein the disrupter gene encodes an RNA sequence that inhibits an endogenous plant gene essential to plant development, or an inserted gene conferring a predetermined characteristic on the plant.

35. (Amended) An expression system as claimed in claim 26 in which said plant development promoter sequence is the promoter of a gene normally active only during germination or early seedling development.

38. (Amended) An expression system as claimed in claim 35, wherein said promoter is selected from the group consisting of the gene promoters of glyoxysomal enzyme genes, aleurone layer genes and carboxypeptidase genes.

39. (Amended) An expression system as claimed in claim 30, in which the recombinase gene is the FLP gene of the 2 micron plasmid of Saccharomces cerevisiae and the recognition sequences are the FRT sequences which flank all or part of an inserted gene or its regulatory elements, wherein the inserted gene is a gene encoding a predetermined characteristic introduced into the plant by a recombinant DNA method.

40. (Amended) An expression system as claimed in claim 30, wherein the recombinase

gene is the Cre gene of bacteriophage P1 and its recognition sequence or the lox sequences which flank all or part of an inserted gene or its regulatory elements, wherein the inserted gene is a gene encoding a predetermined characteristic introduced into the plant by a recombinant DNA method.

46. (Amended) An expression system as claimed in claim 26, wherein the disrupter gene encodes barnase and the gene encoding the inhibitor of the disrupter gene contains the coding region of the barstar gene which on expression produces a protein inhibitor of barnase.

47. (Amended) A plant genome transformed via an expression system as claimed in claim 26.

48. (Amended) A plant having transformed genome as claimed in claim 47.

49. (Amended) A plant part having a transformed genome as claimed in claim 47.

50. (Amended) A plant cell having a transformed genome as claimed in claim 47.

Please add the following new claims:

53. (New) A method for containing the genetic material of a plant, said method comprising

transforming a plant with an expression system functional in a plant and comprising:

(a) an inducible promoter sequence responsive to the presence or absence of an exogenous chemical inducer;

(b) either

(i) a gene encoding a repressor protein under control of the said inducible promoter,

or

(ii) a gene encoding an inhibitor of the disrupter gene specified at (d) below under control of the said inducible promoter;

(c) a plant developmental gene promoter sequence activated at a selected stage of plant development, which, in the case of (b)(i) above, includes an operator sequence recognised by the said repressor protein, the presence of which inactivates the said plant developmental gene promoter;

(d) a gene encoding a protein-disrupter of a plant-characteristic which characteristic is either essential to plant growth or development or which is a characteristic resulting from gene insertion, under the control of the said plant developmental gene promoter sequence;

whereby the presence or absence of the exogenous chemical inducer controls whether said characteristic is displayed in the plant.

54. (New) A method according to claim 53 wherein the plant characteristic controlled by the said expression system is essential to plant growth, whereby the presence of absence of the exogenous chemical inducer allows either growth to maturity or causes growth to slow down or stop at said selected stage.

55. (New) A method as claimed in claim 53 or claim 54 wherein the said inducible promoter sequence is functionally linked to and controls a repressor protein gene and in which the disrupter gene promoter includes an operator sequence recognised by the said repressor protein, so that in the presence of the inducer the repressor protein is produced which interacts with the operator sequence disabling the plant developmental gene promoter and inhibiting expression of the disrupter gene.

56. (New) A method as claimed in any one of claims 53 to 55, wherein the disrupter gene encodes either (i) a cytotoxin which disrupts cell function, leading to cell death, or (ii) a recombinase or a related enzyme of similar function adapted to excise a nucleotide sequence flanked by recombinase recognition sequences, or (iii) a nucleotide sequence adapted to inhibit an endogenous plant gene which is essential to plant development or an inserted gene conferring a desired characteristic on the plant.

57. (New) A method according to claim 56 wherein the disrupter gene encodes a nucleotide

sequence adapted to inhibit an endogenous plant gene which is essential to plant development or an inserted gene conferring a desired characteristic on the plant and wherein said nucleotide sequence is in antisense orientation to the gene to be inhibited and corresponds to less than the full length of the said gene to be inhibited.

58. (New) A method as claimed in claim 57 in which the gene to be inhibited is an endogenous plant gene essential to seed germination or early seedling development.

59. (New) A method as claimed in claim 58, wherein the gene to be inhibited or excised is an (x-amylase gene.

60. (New) A method as claimed in claim any one of claims 53 to 59 in which the said plant development promoter sequence is the promoter of a gene normally active during germination or early seedling development.

61. (New) A method as claimed in claim 60, wherein the said promoter is the promoter of the malate synthase gene.

62. (New) An method as claimed in claim 60, wherein the said promoter is the promoter of the gerniin gene.

63. (New) A method as claimed in claim 60, wherein the said promoter is selected from the group consisting of the gene promoters of glyoxysomal enzyme genes, aleurone layer

genes and carboxypeptidase genes.

64. (New) A method as claimed in claim 56, in which the recombinase gene is the FLP gene of the 2 micron plasmid of Saccharomyces cerevisiae and the recognition sequences are the FRT sequences which flank all or part of an inserted gene or its regulatory elements.

65. (New) A method as claimed in claim 56, wherein the disrupter gene is a recombinase or a related enzyme of similar function adapted to excise a nucleotide sequence flanked by recombinase recognition sequences, and wherein the recombinase gene is the Cre gene of bacteriophage PI and its recognition sequences are the lox sequences which flank all or part of an inserted gene or its regulatory elements.

66. (New) A method as claimed in claim 56, wherein the disrupter gene is a recombinase or a related enzyme of similar function adapted to excise a nucleotide sequence flanked by recombinase recognition sequences, and wherein the recombinase gene is the Activator transposase of Zea mays.

67. (New) A method according to any one of claims 53 to 66 wherein the inducible promoter is the promoter of the gene encoding the 27 kd protein of glutathione-S transferase II.

68. (New) A method as claimed in any one of claims 53 to 66 wherein the said inducible promoter comprises the promoter of the AlcA gene, the system further comprising a gene capable of expressing the AlcR protein, alcA and alcR being obtainable from Aspergillus.

69. (New) A method according to any one of claims 53 to 68 wherein the expression system comprises a repressor protein gene and wherein the repressor protein gene encodes the lac repressor or a repressor used by 434, P22 or lambdabacteriophages.

70. (New) A method as claimed in any one of claims 53 to 68 which comprises a repressor protein gene and wherein the repressor protein is the tet repressor.

71. (New) A method as claimed in claim 53, wherein the disrupter gene of the expression system encodes barnase and the gene encoding the inhibitor of the disrupter gene contains the coding region of the barstar gene which on expression produces a protein inhibitor of barnase.

72. (New) A method for preventing pre-harvest sprouting of a plant, said method comprising transforming a plant with an expression system functional in a plant and comprising:

(a) an inducible promoter sequence responsive to the presence or absence of an

exogenous chemical inducer;

(b) either (i) a gene encoding a repressor protein under control of the said inducible promoter,

or (ii) a gene encoding an inhibitor of the disrupter gene specified at (d) below under control of the said inducible promoter;

(c) a plant developmental gene promoter sequence activated at the germination or early seed development stage of a plant, which, in the case of (b)(i) above, includes an operator sequence recognised by the said repressor protein, the presence of which inactivates the said plant developmental gene promoter;

A 2 (cont'd)

(d) a gene encoding a protein-disrupter of plant germination, under the control of the said plant developmental gene promoter sequence;

whereby the presence or absence of the exogenous chemical inducer controls whether a seed of the said plant will germinate.

73. (New) A method as claimed in claim 72 wherein the said inducible promoter sequence is functionally linked to and controls a repressor protein gene and in which the disrupter gene promoter includes an operator sequence recognised by the said repressor protein, so that in the presence of the inducer the repressor protein is produced which interacts with the operator sequence disabling the plant developmental gene promoter and inhibiting expression of the; disrupter gene.

74. (New) A method according to claims 72 or claim 73 wherein the disrupter gene

encodes a nucleotide sequence adapted to inhibit an endogenous plant gene which is essential to germination.

(cont'd)

75. (New) A method according to any one of claims 72 to 74 wherein the presence of endogenous chemical will allow the seed to germinate.